

Amendments to the Claims:

1. (Currently Amended) A method for securing transactions using electronic deposits (purses), comprising:

~~combining configuring, in an electronic deposit (purse), a grey lock mark, which identifies the state of the last transaction of the electronic deposit (purse); after setting the grey lock mark, all operations to the electronic deposit (purse) except resetting the grey lock mark being invalidated with an electronic deposit (purse) of an IC card;~~

~~setting, while starting a transaction using the electronic deposit (purse), the grey lock mark and a grey lock mark on the IC card to lock grey the IC card while simultaneously recording parameters of the transaction as a locking card source in the electronic deposit (purse) a first locking card source by the IC card; and~~

~~merging a debiting operation and a unlocking grey operation into a one step operation on the IC card; and~~

~~validating the recorded locking card source before debiting money from the electronic deposit (purse), and if the recorded parameters are validated, debiting money from the electronic deposit (purse) and resetting the grey lock mark simultaneously to unlock grey the IC card automatically after successfully completing the debiting operation.~~

2. (Currently Amended) The method according to claim 1, further comprising:

~~storing an encryption key in a host computer of the distributor who distributes the electronic deposit (purse), in order to debit supplementary money from the electronic deposit (purse) and to reset the grey lock mark compulsorily in the electronic deposit (purse), which is being set the grey lock mark, of implementing a debiting operation and implementing a mandatory unlocking grey operation in a computer to make a supplementary debit and implementing a mandatory unlocking grey operation for a locked grey IC card on an on-line card terminal by an with on-line mode.~~

3. (Currently Amended) The method according to claim 1, wherein the procedure of securing transactions using electronic deposits (purse) comprises comprising:

inserting the electronic deposit (purse) into a transaction IC-card to a card terminal;
authenticating mutually by both the electronic deposit (purse) IC-card and the card and the terminal mutually;

looking setting the grey mark in the IC-card electronic deposit (purse) by the card terminal;

performing initiating a consumption; and
after the consumption is complete, debiting appropriate money from [[an]] the electronic deposit (purse) on the IC-card and unlocking resetting the grey mark simultaneously the IC-card by the card terminal.

4. (Currently Amended) The method according to claim 3, wherein the step of looking setting the grey the IC-card lock mark comprises:

generating creating a first authentication locking code by the electronic deposit (purse) IC-card according to the first locking card source and transferring transmitting simultaneously the necessary parameters for creating the first locking card source to the card transaction terminal using the electronic deposit (purse) simultaneously;

generating creating a second locking card code source by the card terminal using in the same mechanism way as the electronic deposit (purse) IC-card; and with the second locking card source creating generating a second first authentication code according to the second locking code and sending the second first authentication code to the electronic deposit (purse) IC-card by the card terminal;

generating a second authentication code by the electronic deposit (purse) according to the first locking code in the same was as the terminal;

determining by the IC-card whether the received first authentication code and the generated second authentication code are identical, and if yes they are, looking setting the grey lock mark the IC-card and sending back a grey-lock characterized code, created with the first locking card source and corresponding data, to the card terminal; and

wherein ~~said the step of debiting money from [[an]] the electronic deposit (purse) on the IC-card and resetting the unlocking grey lock mark the IC-card by the card terminal simultaneously~~, comprises:

~~generating~~ creating a third authentication code ~~by the card terminal~~ according to the second lock code and ~~locking card source and necessary~~ parameters for debiting money from the electronic deposit (purse) by the terminal, and sending the generated third authentication code and ~~the corresponding~~ parameters ~~together~~ to the electronic deposit (purse) IC-card;

~~generating~~ creating a fourth authentication code according to ~~by the IC-card with the first locking card source lock code and the corresponding received parameters by the electronic deposit (purse) using same mechanism; and~~

determining ~~by the IC-card~~ whether the received third authentication code and the generated fourth authentication code are identical, and if yes they are, debiting money from ~~[[an]] the electronic deposit (purse) on the IC-card~~ and resetting the grey lock mark simultaneously after debiting successfully.

5. (Currently Amended) The method according to claim 4, wherein the step of validating the recorded locking card source comprises further comprising:

generating a fifth authentication code according to the first locking code by the electronic deposit (purse) and sending the fifth authentication code to the terminal;

generating a sixth authentication code according to the second locking code by the terminal and determining whether the received fifth authentication code and the generated sixth authentication code are identical, if yes, it means that the recorded locking card source is validated, otherwise, the recorded locking card source is invalidated; and

if the transaction using the electronic deposits (purses) is incomplete, the method further comprising:

storing the ~~third~~ sixth authentication code ~~needed for debiting, the amount of money of an escape card and the grey lock characterized code and parameters for debiting money from the electronic deposits (purses)~~ together as part of a grey record information by the terminal, and

sending the grey record information to the host computer of the distributor who distributes the electronic deposit (purse) a central computer by the card terminal; and
if the electronic deposit (purse) is used in any terminal that stores the grey record information, before validating the recorded locking card source, the method further comprising:
regenerating the fifth authentication code according to the recorded locking card source by the electronic deposit (purse) and send the fifth authentication code to the terminal.
for an IC card with an incomplete ending transaction and without debiting and unlocking the last time the IC card was used, authenticating the grey lock characterized code by the card terminal the next time the IC card is used, which terminal has stored said grey record, to confirm that the first locking card source of the IC card is same as the second locking card source for calculating the third authentication code in said grey record; and after confirmation, executing the debit and unlocking grey operation.

6. (Currently Amended) The method according to claim 1, wherein said first locking card source is the step of generating a first locking code according to the locking card source comprises:

generating a procedure encryption key (SESPK), correlating to at least a pseudo random number (ICC) created temporarily, in the electronic deposit (purse) by the IC card.

7. (Currently Amended) The method according to claim 6, wherein said the equation of generating a procedure encryption key (SESPK) comprises:

the procedure encryption key (SESPK) = 3DES (DPK, DATA), where DPK is a consumption encryption key of the electronic deposit (purse), obtained from a consumption main encryption key (MPK) based on dispersing an application sequence number of the IC card; and DATA is a specific parameter including a temporarily created pseudo random number (ICC) temporarily created by the electronic deposit (purse) of said IC card, a transaction sequence number of the electronic deposit (purse) (CTC), and the last two bytes of the card terminal transaction sequence number (TTC).

8. (Currently Amended) The method according to claim 6, wherein the step of setting the grey lock mark comprises:

locking grey the IC card comprises:

sending a ~~card~~ terminal transaction sequence number (TTC) ~~from the card terminal to the~~
electronic deposit (purse) by the terminal IC card;

getting a pseudo random number (ICC) and an electronic deposit (purse) transaction
sequence number (CTC) by the electronic deposit (purse) of the IC card;

generating ~~creating~~ a first procedure encryption key (SESPK) ~~by the IC card and~~
recording the parameters of this ~~generating creating~~ step and also ~~generating creating~~ and
recording a ~~grey lock characterized~~ sixth authentication code of this time ~~at the same time;~~

sending the pseudo random number (ICC) and the electronic deposit (purse) transaction
sequence number (CTC) from the electronic deposit (purse) IC card to the ~~card~~ terminal, which
~~terminal~~ has stored a consumption main encryption key (MPK) in its security authentication
module (PSAM);

deriving the electronic deposit (purse) DPK ~~on the IC card with an application sequence~~
~~number of the IC card~~ by the security authentication module (PSAM); and

generating creating a second procedure encryption key (SESPK) by the ~~card~~ terminal
using the pseudo random number (ICC), the electronic deposit (purse) transaction
number (CTC), and the ~~card~~ terminal transaction sequence number (TTC) in using the same
~~mechanism way~~ as the electronic deposit (purse) IC card; and

wherein ~~said the step of debiting money from the electronic deposit (purse) and resetting the grey~~
lock mark simultaneously step comprises:

generating the third ~~calculating a first~~ authentication code by the ~~card~~ terminal according
to with the second procedure encryption key (SESPK), and at least the debit amount, operation
date and time, and sending the ~~first third~~ authentication code, the second procedure encryption
key (SESPK), and at least the debit amount, operation date and time to the electronic deposit
(purse) IC card;

~~generating the fourth calculating a second~~ authentication code by the electronic deposit (purse) according to IC-card with the first procedure encryption key (SESPK), using the same data and algorithm as the terminal;

determining by the ~~IC-card~~ electronic deposit (purse) whether the ~~first third~~ authentication code and the ~~second fourth~~ authentication code are identical, and if yes they are, ~~then~~ debiting money and resetting the grey lock mark ~~unlocking~~, and otherwise if they are not, ~~then~~ incrementing an internal error counter and returning an error code without debiting money from the electronic deposit (purse) and resetting the grey lock mark simultaneously ~~unlocking~~; and

locking the electronic deposit (purse) ~~IC-card application~~ internally to prevent misuse, when the internal error counter reaches a predetermined number.

9. (Currently Amended) The method according to claim 1, wherein the step of setting ~~combining~~ a grey lock mark ~~with an electronic deposit~~ comprises creating a refueling electronic deposit.

10. (Currently Amended) The method according to claim 9, wherein said refueling electronic deposit ~~further~~ includes the functions of refueling transaction, local ~~unlocking grey~~ transaction for resetting the grey lock mark and on-line ~~unlocking grey~~ transaction for resetting the grey lock mark.

11. (Currently Amended) The method according to claim 9, wherein said refueling electronic deposit further includes the states of pre-refueling, grey lock and unlocked grey.

12. (Currently Amended) The method according to claim 9, wherein said refueling electronic deposit further ~~includes~~ comprises the commands of INITIALIZE FOR REFUEL, LOCK FOR REFUEL, DEBIT FOR REFUEL, INITIALIZE FOR UNLOCK, DEBIT FOR UNLOCK and GET GREY STATUS, wherein the INITIALIZE FOR REFUEL command is used for refueling consumption transaction initialization, the LOCK FOR REFUEL command is used for making grey lock to refueling electronic deposit (purse), the DEBIT FOR REFUEL command is used for local refueling consumption and unlocking grey simultaneously, the

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INITIALIZE FOR UNLOCK command is used for on-line unlocking and consumption transaction initialization, the DEBIT FOR UNLOCK command is used for on-line unlocking grey transaction and supplementary debiting refueling consumption simultaneously, and the GET GREY STATUS command is used for reading grey lock state and launching local unlocking grey transaction.